

Choices

Spasms and spasticity



Multiple sclerosis information

Welcome to this MS Choices booklet about spasms and spasticity

MS-UK believe we must listen to the voices of people affected by multiple sclerosis (MS) to shape the information and support we provide. It is these people that bring us perspectives that no one else can give.

For every MS information booklet we produce, MS-UK consults the wider MS community to gather feedback and uses this to inform our content. All of our Choices booklets are then reviewed by the MS-UK Virtual Insight Panel before they are published.

This MS information booklet has been designed with you in mind. We hope it will answer some of your questions and also provide some first-hand experience from those who have been in your position - people who can truly understand and empathise with your current thoughts and feelings.

Every time you find bold text with quotation marks like this, it is a quote directly from someone affected by multiple sclerosis

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Spasms and spasticity

Spasms and spasticity affect the majority of people with MS at some point during their lives. Indeed, in a recent survey of the MS community, conducted by MS-UK, just over two-thirds of those who replied indicated that they are affected by both. It is therefore important for anyone affected by MS to be aware of their impact and how they can be managed.

Throughout this booklet we take a deep dive into what distinguishes spasms and spasticity from other symptoms, how they affect people with MS and what can be done to manage them, summarising possible treatments, self-management ideas and techniques.

People don't understand what spasticity or spasms are, which can be frustrating. One person thought spasticity meant I was having regular fits! It's disappointing that there is still a real lack of awareness of these types of symptoms and how they affect us with MS

If muscle stiffness, spasms and pain associated with tight muscles are something that you experience, or if you are someone who simply wishes to know more about these common MS symptoms, we hope that you find this booklet informative and supportive.

I think ‘spasticity’ is a harsh word that makes me feel worse than I actually am

What are spasms and spasticity?

While spasms and spasticity share many characteristics, being that they both affect muscle movement, can impact with different degrees of intensity, and can occur sporadically without warning, each can be considered a symptom of MS in its own right.

It is important to note that spasms and spasticity can affect not just the muscles in your limbs but also those situated in your trunk and back. Furthermore, as with other symptoms of MS, spasms and spasticity can vary in severity and are likely to be experienced differently from person to person.

Spasticity

Muscle tightness, stiffness and the feeling of limbs being heavy is referred to as spasticity. This occurs due to increased muscle tone and an exaggerated response to muscle stretch, which happens over a period of time. Spasticity is a very common symptom experienced by people living with MS, can be very painful, and in some cases severely impact mobility.




I would describe spasticity as ‘limbs behaving badly’ - not bending when required or locking up




A 2016 study, involving over 15,000 people affected by MS, found that over three quarters were affected by spasticity, impacting their ability to be active, to participate in activities and being detrimental to overall quality of life (1).

It should also be said that individuals need a degree of spasticity, or at least enough, to be able to stand and mobilise. Therefore, occasionally muscle spasticity can be something that can aid mobility, however this does depend on its intensity.



Spasms generally happen when I change positions (lying to sitting, sitting to standing), everything sort of tightens, goes rigid, there is like a type of electric shock feeling and then it returns to normal



Spasms

Spasms are different to spasticity in that they are a sudden, uncontrolled movement caused by muscles moving in an involuntary way, by way of contracting or tightening. They may cause a limb to twitch or jerk and can be painful. Spasms commonly occur in the legs and arms, however they can impact the muscles in other areas of the body, such as those in the trunk or the throat.

Types of spasms and spasticity

There are many ways in which people with MS are affected by spasms and spasticity. Below we look at the mechanics behind these.

Flexor

Flexor spasms usually occur when the muscles on the rear of your limbs are drawn or pulled by the effect of the spasm, which in turn causes the limbs to bend upwards and prove difficult to straighten.

Adductor

Adductor spasms draw the limbs inwards toward the body. For example, adductor spasms that impact your legs may draw your thighs toward each other.

Extensor

Extensor spasms generally affect the muscles situated at the front of your limbs and forces them to remain straight instead of bending.

Clonus

Also known as 'clonus reflex', it is when a muscle pulses for a period of time. It makes affected limbs move rhythmically, such as the foot or hand tapping.

The MS 'hug'

This is a symptom involving muscles in the torso going into spasm and contracting, which causes a tightness or girdling sensation around the upper body. It can also be caused by nerve damage that creates a sense of altered sensations around the torso, which can occur in isolation or in tandem with spasms.

The MS 'hug' can affect people in different ways and can be quite distressing for some, while for others the impact can be less invasive and can pass without the need for treatment or by using effective self-management techniques.

It is important not to assume any feelings of tightness or discomfort around the upper body are because of the MS 'hug'. Therefore, if you do experience any of these symptoms, please seek prompt medical guidance (2).

What causes spasms and spasticity?

When the nerve pathways that connect the central nervous system (CNS) to your muscles become damaged, then spasms and spasticity can occur. These neural pathways are compromised due to the impact of demyelination, caused by MS. This leads to irregular signals being transmitted to different parts of your body, depending on where in the CNS the damage has occurred, and results in the erratic behaviour of muscles.

Sometimes spasms and spasticity episodes are triggered by infections or bladder and bowel problems, environmental factors such as extreme temperatures and even the type of clothing you wear, for example tight fitting clothes.

In my case my legs go straight, heavy and will not bend. They are painful


Effects of spasms and spasticity

As we have mentioned already in this booklet, spasms and spasticity can affect the movements of limbs in different ways. Additionally, just like most other symptoms associated with MS, spasms and spasticity can impact each individual differently. This includes their level of frequency, severity and the disruption they cause to daily living. They can impact on movement, mobility and posture and can increase levels of fatigue, the latter mainly due to the physical and emotional toll associated with episodes and secondary effects such as sleep deprivation.


Spasms in the upper body make simple tasks take longer, for example, washing up

Moreover, the stiffness caused by MS-related spasticity can range from a short-lived and mild feeling of tightness to that which is much more chronic and severe, affecting mobility, gait and the ability to walk.

If spasticity is not managed appropriately, it can lead to permanently shortened muscles, tendons, and ligaments, called contractures, plus frozen or immobilised joints and pressure sores. All of these can have a lasting impact on mobility and quality of life (3).



It affects my walking when it affects my legs. I'm an administrator for my job, which I love, however the spasticity can really challenge my day sometimes. I'm determined to not let it get the better of me though. I'm keen to continue in my job role and find ways to work around it



How are spasms and spasticity treated?


There are many ways in which spasms and spasticity can be managed.

Your MS team or GP should be following the National Institute for Health and Care Excellence (NICE) guidelines for the management of MS, which includes the treatment of spasms and spasticity. They will likely assess and offer treatment for issues which may trigger


spasticity such as constipation, infections including those affecting the urinary tract (UTIs), inappropriately fitted mobility aids, pressure ulcers, poor posture and pain.

These trigger factors need to be dealt with initially and this may mean referrals for support from a multidisciplinary team, with the aim of addressing any such issues prior to offering focused treatment. This may include support from physiotherapists, occupational therapists or community-based nurses (3).

Equally, another concern for health professionals when treating spasms and spasticity is to ensure that they find a balance when managing the level of spasticity in individuals. The regular movement of muscles is reliant on a certain amount of spasticity and if these levels are reduced significantly, they can make them too weak to function correctly. This is reflected in the NICE guidelines as a consideration in the treatment of spasticity in people with MS (3).



Do not give up if one thing does not work. Try as much as possible and try things together. Some combinations work better than others. Do not give up trying and do not be afraid to add or change a treatment



MS Clinical Nurse Practitioner Miranda Olding wrote about spasticity medications in MS-UK's New Pathways magazine and said 'because MS involves both stiffness and weakness in the muscles, you can find that a degree of stiffness is needed to maintain the strength needed for standing, so it can be a fine balance' (4).

In the following sections we take a look at the variety of treatment options that may be considered for the management of spasms and spasticity, ranging from conventional medications to self-management and complementary approaches.

Drug treatments

A variety of drug treatments can be offered by your medical team to combat spasms and spasticity.

Baclofen

According to NICE guidelines, the first line medication you may be prescribed is baclofen, which is a muscle relaxant making them less likely to contract, also reducing pain and discomfort associated with spasms and spasticity. It is available in a tablet or liquid format and its most common side effects include drowsiness, feeling dizzy and fatigue. Stopping the use of baclofen needs to be done gradually, with dosage reduced over a period of 1-2 weeks (5).

I take baclofen. Occasionally if I forget to take my tablet, I'm soon reminded by how my legs are behaving

Gabapentin

Gabapentin is the next treatment to try if baclofen is not right for you. This is an anticonvulsant medication that is often used for nerve

pain in MS and is thought to block pain by affecting pain messages travelling through the brain and spine (5). It is also known to work as a muscle relaxant by blocking neural impulses that travel between the brain and muscles.

As with baclofen it can be taken as a tablet or liquid. Common side effects including fatigue, nausea, mood changes and diarrhoea. It is also important to note that stopping gabapentin use needs to be done gradually to prevent associated withdrawal symptoms (5).

Tizanidine

Another muscle relaxant that can be offered, usually if baclofen and/or gabapentin have not had the desired effect, is tizanidine. It works as a nerve impulse blocker, similarly to baclofen and gabapentin and is taken orally via tablet or capsule format.

According to NICE your liver functions should be monitored for the first four months of tizanidine treatment to ensure that it is coping well and is not being harmed. Most common side effects include arrhythmias, fatigue, feeling drowsy and blood pressure changes. It is also another drug which needs to be stopped gradually to minimise the risk of withdrawal symptoms, which can include hypertension and tachycardia (6).

**I take clonazepam 0.5 micrograms at night,
which does settle my legs down**

Other oral medications

There are alternative drugs that may be offered to you by health professionals to help manage the impact of spasms and spasticity. These include the muscle relaxant dantrolene, clonazepam and diazepam. The latter two are known as benzodiazepines, a type of sedative, and should only be used as a short-term solution.

Botulinum toxin (botox)

In cases where spasticity does not affect multiple parts of your body, botulinum toxin, commonly referred to by the brand name botox, can offer an effective solution. Botulinum toxin is a naturally occurring chemical which is injected directly into the affected muscle to help reduce the tightness caused by spasticity. It works by preventing the muscles from contracting. This treatment needs to be repeated approximately every three to four months if required (4).

Botox has helped, but I find that it became less effective the more I had it

Intrathecal baclofen

If orally administered drug treatments are not as effective as hoped in reducing spasticity, the symptoms are severe and the side effects of oral medication are significant, a baclofen pump can be considered. This is known as intrathecal baclofen and involves a tiny dose of the

drug being delivered straight to the spinal column via an infusion pump, which is fitted into your lower abdomen.

Before this type of treatment can be considered, you will need to undergo a test dosage which is usually administered via lumbar puncture. This is to determine if it will be effective in controlling your spasms and spasticity, given that for long term use the infusion pump is fitted into your lower abdomen (5).

Side effects of intrathecal baclofen are usually less in comparison to orally administered baclofen, given that the dosage required is lower as it does not have to pass through the body's protective blood-brain barrier before entering the CNS.

Intrathecal phenol

This is another option that may be considered if other treatments, such as oral medications, are no longer a viable option and spasticity is severe, chronic and causing intense pain. Phenol works by preventing the transmission of nerve signals that are sent to the muscles in your lower limbs from the lower motor neurons. This helps the muscles to relax and not contract. Intrathecal phenol treatment is permanent and is deemed as a last resort given that it damages sensory and motor nerves (7).

Phenol is administered via lumbar puncture directly into the intrathecal space within the spinal column. Prior to the treatment all patients will undergo a trial, whereby anaesthetic is injected into the intrathecal space and mimics the effect of phenol for a short period of time. This allows you and the medical team to assess the potential effectiveness of phenol treatment. Side effects of phenol treatment can include impaired sexual function, problems with bladder and bowel control and lower sensory changes (7).


I do regular exercise, stretching and walking. I have very long deliberate stays in bed and I spend time monitoring my current state and exercise for ten minutes several times a day

Exercise


While exercise is generally great for our overall physical wellbeing, it is especially good for maintaining flexibility. Stretching, for example, has been shown in some studies to help decrease stiffness and is regularly promoted by physiotherapists and rehabilitation teams as a way of managing the impact of spasticity (8).

In a recent small study that looked at group-delivered self-management programmes with an aim to reduce spasticity, it was found that taking part in a planned, regular exercise and stretching regime had clinically significant positive impacts on spasticity in people with MS (9).

Earlier in this booklet we touched on the different types of spasticity, such as flexor and extensor. These different types of spasticity can be targeted by stretching different parts of the body. For example, if you experience flexor spasticity in your legs it can help to stretch your hip flexors, while extensor spasticity in the legs can be addressed by stretching the lower back muscles and quads (10).



Do regular exercise (even when you don't feel like it). It can be really helpful for symptoms like stiffness and fatigue



Taking part in exercise activities like yoga, Pilates, tai-chi and qigong are a good way of stretching the muscles. All of these can involve gentle stretches, be adapted to any ability and all are also associated with promoting overall physical and mental wellbeing.



I practice yoga and believe it helps



It is recommended you speak to a GP or consultant prior to starting a dedicated exercise regime. This will afford you the chance to discuss any health concerns you may have with them so that, if need be, they can be addressed beforehand.

More information

To find out more about the benefits of accessible exercise in managing the impact of MS, including spasms and spasticity, please read our dedicated 'Exercise' MS information booklet. www.ms-uk.org/choices-exercise-content


MS-UK offers a range of inclusive online activities, including exercise classes, chair yoga and qigong. Our online activities portal also hosts a variety of downloadable resources, including free access to our easy-to-follow exercise worksheets. To find out more and how to subscribe, please go to our online activities webpage.
www.ms-uk.org/multiple-sclerosis-online-activities/

Physiotherapy


Another consideration would be to consult a physiotherapist, and if available, one that is part of a specialist neurological rehabilitation service. They can assess your needs and suggest a range of exercises, stretches and assisted movements to help with symptom management, support the coordination of movement, improve posture and target areas of muscle weakness.

The best thing I have found is physiotherapy. For me, exercise helps a lot. Also I use a heat treatment like a wheat bag

Physiotherapists have a detailed knowledge of human physiology and will work to ensure that you receive the right type of support to minimise the impact of spasticity. They can also use spasticity measurement tools such as the Ashworth Scale, Modified Ashworth Scale and the Tardieu Scale within their clinical practice to determine the effectiveness of treatment and measure for changes over time (11).




My physio has helped me to think through the spasms to prepare for them but it doesn't always work. Especially at night when you can't prepare for them



Depending on the size of the team and resources available to them, physiotherapists will have a range of specialist interventions to bring into play that can help with spasticity. This could be in the form of hydrotherapy, therapeutic exercise, postural training and electrical stimulation (12).

Speak to your GP or MS nurse if you would like a referral to your local NHS physiotherapy service. Some NHS physiotherapy services can be accessed by self-referral around the UK. Physiotherapy can also be accessed directly via your nearest neurotherapy centre or physiotherapy practitioner.



I use hyperbaric oxygen therapy, physio, and massage and stretching exercises, they all help



More information

You can find your nearest neurotherapy centre by going to the Neuro Therapy Network website. www.neurotherapynetwork.org.uk

Cannabis

There has been evidence for some time that shows components of the cannabis plant can help some people with MS manage associated symptoms, particularly with regards to spasticity and pain (4).

Medicinal cannabis comes in different guises. Cannabidiol, which is commonly known as CBD, can be taken in capsule format, gummies, as a tincture which is dropped under the tongue or as a massage oil. These are available for general sale in the UK.

I take a daily dose of CBD oil when my spasticity gets bad

It is worth bearing in mind that the CBD products available in the UK must contain none, or at worst, extremely minimal tetrahydrocannabinol (THC) content for them to be sold legally. Considering this, it is important to note that existing studies indicate that cannabis, with 1:1 or greater CBD to THC ratio, is most

effective in reducing the impact of muscle spasticity (13).

If you are considering supplementation with a CBD product, it would be worth speaking to your health professionals to identify any potential contraindications with any existing medications.

For potentially more effective relief from the impact of spasticity, nabiximols, known in the UK by the brand name Sativex, may be available to you. Sativex is an oromucosal spray for the treatment of moderate to severe spasticity. It is licenced in the UK only for people who have not responded sufficiently to first line and other anti-spasticity medication (14). It can be used in isolation or to supplement existing spasticity medication that you may be taking.



My spasticity is controlled with baclofen and Sativex spray



Sativex contains CBD and THC to levels which studies have shown are generally well tolerated and effective when treating chronic spasticity. Very recently two clinical trials have shown nabiximols to be instrumental in relieving muscle stiffness and spasms in people with MS (15).

More information

The NHS website offers more information about medical cannabis, what can be prescribed, safety and potential side effects. www.nhs.uk/conditions/medical-cannabis

Low Dose Naltrexone (LDN)

Naltrexone is a drug developed initially to treat addiction to opiate based drugs, such as heroin or morphine. It belongs to a class of medications called opiate antagonists.

Naltrexone delivered in lower doses, known as low dose naltrexone (LDN), has been used in the USA to treat the symptoms of autoimmune conditions, such as MS, since 1985, and more recently has been used in Europe and the UK (16).

I take 3mls of LDN, adjusting dosage when needed. It has stopped my heat intolerance and twitching legs but has not stopped progression

LDN is used 'off label' as a treatment for the symptoms of many conditions including Crohn's disease, fibromyalgia, chronic fatigue syndrome and ulcerative colitis – conditions with an autoimmune origin, or potential autoimmune origin. While LDN is not licensed specifically for these conditions, physicians are permitted to prescribe LDN as and when they feel it is appropriate (17).

While there is a dearth of studies that underpin LDN's impact on spasticity in people with MS, an Italian six-month phase II pilot trial of 40 people with primary progressive MS (PPMS) was conducted in 2008. It found that LDN was well-tolerated by the patients who

also reported an improvement of their symptoms, including pain, fatigue and depression. A significant reduction in spasticity was also measured at the end of the trial (18).

More information

To find out more about LDN and how it can be used to treat MS symptoms, please read our dedicated Low Dose Naltrexone MS information booklet. www.ms-uk.org/low-dose-naltrexone-multiple-sclerosis-choices-booklet

Complementary therapies

Many people with MS use complementary therapies to help manage spasms and spasticity. They can be used in isolation or as part of a multi-disciplinary approach. Some complementary therapies can be accessed via neuro therapy centres, which we signposted to earlier in this booklet.

Acupuncture

There is much anecdotal and soft evidence that acupuncture can help with stiffness and spasticity, however there is minimal hard evidence from studies. The studies that have been conducted have often been small but have had some positive findings.

One such review conducted in 2014 suggested that, as most treatments for spasticity are medicines which may have undesirable side effects, acupuncture may offer a viable alternative form of spasticity management for people with MS (19). A more recent systematic review backed up these findings (20). Both reviews recognised the lack of studies undertaken to further verify the efficacy of acupuncture as a means of treating spasticity in people with MS.

I use acupuncture, yoga, and meditation. They help me relax and take my mind off the symptoms

Biofeedback

This therapy involves using an electronic monitoring device that gives feedback over a person's bodily functions. For treating spasticity, it would monitor muscle tension. When monitoring spasticity, biofeedback creates a signal, perhaps a sound, as a muscle experiencing spasticity relaxes. With professional support, the person undergoing the therapy may be able to train themselves to consciously reduce muscle tone by finding a relaxed state during periods of contraction.

Biofeedback is used to treat a variety of symptoms in people with MS, including bladder and bowel issues, but there is no body of evidence to support the therapy as a way to treat spasms and spasticity. That said, the whole mind-body approach of biofeedback, including the role it can play in focusing on timed relaxation, may help to reduce the impact of spasticity for people with MS (21). Biofeedback is used in some NHS specialist centres but is more often found in private therapeutic practices.

Massage

Massage therapy is used by many people with MS to help manage a variety of symptoms. For spasticity, massage can help to relax the muscles, making movements easier and helping to relieve muscle tension. In general terms, massage therapy is thought to improve a

sense of overall wellbeing including increased self-esteem and lower anxiety levels (22). For people with MS this can lead to effective management of related symptoms, potentially resulting in a better overall adjustment to living well with MS (23).

If I'm upset, stressed or emotional it's worse

Reflexology

Reflexology is a complementary therapy that predominantly works on the feet, but can also be done on the hands, face and ears. It is a non-invasive therapy that is effective in promoting deep relaxation. The main theory that underpins reflexology is that there are reflex points in these body parts which correspond with different areas of the body and their functions. By working these points, reflexology can help to bring balance to the body, reduce tensions and improve sleep – something that is often much-needed if you have MS (24).

While reflexology has been shown to help people with MS in the management of pain and fatigue, it has also been found to help in the management of spasticity, including alleviating problems with motor functions (25, 26).

More information

Our Complementary and other therapies MS information booklet provides more information on how different types of therapy may be beneficial to people affected by MS, along with relevant

Electrotherapies

There are several electrotherapies available that have been shown to help with the management of spasms and spasticity in people with MS.

Action Potential Simulation (APS) therapy

APS therapy is a safe and effective drug-free pain management system suitable for the treatment of both neuropathic and musculoskeletal pain. It is a type of micro-current therapy whereby an electrical current is transmitted through the human body via electrodes that make contact with the skin. The currents used are designed to mimic the electrical pulses that the body produces naturally, these are known as action potentials.

Action potentials are the change in electrical potential associated with the passage of an impulse along the membrane of a muscle cell or nerve cell. In cases of neuropathic pain, or improper nerve firing, such as with restless leg syndrome, applying waves of correct action potential frequencies seems to reduce the improper nerve impulses, reducing or completely alleviating pain, which includes that associated with spasticity.

During a small pilot trial at the Bedford MS Therapy Centre, which was looking at the efficacy of APS therapy to treat pain in people with MS, it was found that several participants also reported an improvement in muscle stiffness and spasms (27).

APS therapy is used by numerous neuro therapy centres across the UK. There are also many independent therapists using APS

and it is possible to hire or purchase APS therapy machines for use in the community.

We explain more about APS therapy in our Complementary and other therapies MS information booklet, to which we have signposted in the previous section.

Functional Electrical Stimulation (FES)

FES therapy can help people with MS move more easily. It has been used often in rehabilitation settings for therapy, restoration of function and maintenance of vital function in instances of muscle weakness.

The therapy works by sending small electrical impulses to motor nerves that are connected to your muscles. These impulses are delivered using electrodes which are placed on the skin close to the nerve that needs to be stimulated. This subsequently stimulates the muscle and supports it to act regularly, particularly with regards to movement. The technology is also incorporated within certain specialised exercise cycling machines.

FES technology is most often used to treat foot drop and in a study from 2010 people with MS who received this form of treatment for this purpose reported fewer falls and more positive outcomes (28). It is also thought to help with the management of spasms and spasticity, with a case study report from 2007 finding that FES cycling helped to reduce muscle tone in people with MS and a significant reduction in spasticity (29).

FES specialist cycles may be accessed via some NHS neuro-rehabilitation centres and are available at wellness centres, specialist accessible gym environments, some neuro therapy centres and private neuro-rehabilitation services. FES equipment is also available to purchase privately.

Transcutaneous Electrical Nerve Stimulation (TENS)

TENS is one of the most common forms of electrical stimulation used for the management of pain. It works by sending low-voltage electrical impulses to the affected area, via electrodes which are applied to the skin. These impact the pain signals that are sent to your brain and spinal cord.

TENS therapy does not provide a cure for the cause of pain but provides a temporary easing of its severity. It can be used for people with MS to treat a variety of painful symptoms including altered sensations, and pain associated with spasticity and spasms.

There have been several studies undertaken, particularly within the past twenty years, that have looked at how TENS treatment can support people with MS. A recent review of clinical trials concluded that TENS should be recommended as a way to treat spasticity given their findings. Not least as it is simple to administer, is of low cost and is generally very well tolerated (30).

Additionally, a small-scale study published in 2023 found that TENS was effective as a pain management tool for people with MS, with patient quality of life improving as a result (31).

TENS machines are commonly available, can often be hired from pain specialist services and are available on general sale from a variety of providers.

Supplements

Many people with MS will choose to take supplements to support symptom management and to bolster their general health. However

hard evidence is limited when it comes to supplements and their effectiveness in lessening the impact of spasms and spasticity.



With spasms I either drink at least half a pint of water or take a magnesium tablet



Magnesium

This is a key mineral that our bodies rely upon to maintain healthy bodily functions, particularly those related to the brain and heart (32). It can be consumed naturally via a variety of foods such as leafy greens, avocado, bananas, legumes and oily fish. Supplementation is also possible in the form of tablets, liquids, massage oils and more.

In a single case study report, magnesium supplementation was found to give significant improvements in spasticity and spasm in a patient with MS. No side effects were reported (33).



I take magnesium. I also stretch muscles even after walking a short distance. I vigorously massage the soles of my feet before going to bed



MS Clinical Nurse Practitioner Miranda Olding writes on her blog that magnesium can be effective as a relaxant in the nervous system, and so can assist with reducing spasm and nerve pain. Miranda goes on to say that there can be a risk of magnesium toxicity and possible contraindications with drugs such as gabapentin (34).

Interestingly, a sign of magnesium deficiency can be muscle cramps and contractions plus other symptoms that people with MS will be familiar with, such as fatigue, numbness and tingling (32).

If you are considering magnesium supplementation, or indeed if you have concern that your body's levels are low, speak to your GP or MS nurse. You can discuss with them the possibility of any contraindications with medications that you are taking and having your magnesium levels checked.



I take daily supplements of calcium and magnesium and use CBD oil to help



L-threonine

L-threonine is a naturally occurring essential amino acid and has been tested in some studies to treat muscle stiffness, or spasticity in people with MS.

While evidence is limited, the small-scale studies that have taken place so far have shown threonine may play a part in spasticity management for people with MS. Participants of one study in

particular reported fewer spasms and milder pain after taking low dose l-threonine supplementation for a period of two weeks (35).

In a blog post titled 'The top 15 supplements for natural MS treatment', Dr Ronald Hoffman, who is a complementary medicine practitioner from New York recommends supplementation of magnesium threonate, which he says combines the benefits of threonine and magnesium to alleviate muscle spasm (36).

Foods that are a good source of l-threonine include beef, chicken, turkey, tuna, soybeans, milk, and peas.

More information

Our Diet and Supplements MS information booklet provides further reading on the link between our diet, supplements and MS, including more information about gut health and the specific diets that have been developed and used by people with MS, with positive results. www.ms-uk.org/multiple-sclerosis-diet-and-supplements-choices-booklet



Listen to your body and keep a diary



Keep a symptom diary

It is important to observe and monitor any identifiable triggers and other environmental factors that may be negatively influencing how you feel. MS-UK has a symptom diary that can be used to help monitor your spasticity. By completing a symptom-specific diary, you and your health team may be able to unpick any patterns or influencing factors that may be impacting you. Triggers to be aware of include

- Emotional and psychological issues
- Bladder issues including UTIs
- Bowel issues including constipation
- Heat
- Pain issues
- Fatigue levels
- Skin issues including pressure sores and any skin irritation or breakdown

More information

A copy of our symptom diary is displayed at the rear of this booklet. However, you may find our downloadable symptom diary template and accompanying guidance helpful. <https://ms-uk.org/ms-symptoms-diary/>

During the production of this booklet, we asked the MS community for their feedback on the methods they use to self-manage the impact of spasms and spasticity. This is what they said.

- I find warmth relieves my spasms quite well. Warm baths at the end of a busy day at work are great!
- I always wear gloves when I go out, I use a hand warmer at home which helps
- I find swimming helps to stretch out my hands, arms and legs and I find it relieves the spasticity quite well
- I do stretching exercises before work and in the evening
- In the moment of a spasm, I have to breathe myself calm until it wears off on its own
- I practice mindfulness to temper the pain caused by spasms
- If the spasms (or spasticity) cause pain contact your local pain management service, they have a huge amount of useful information and techniques
- Everyone is affected slightly differently so get advice on the issue and then do what you think is the most effective for your needs

Questions for your doctor

e.g. my legs are feeling very tight and stiff

Other information

e.g. the stiffness makes it difficult for me to walk

Symptom diary

Date	Describe your symptom. How are you affected?	Is this a new symptom? Or one you have experienced before? Is it worse than previously experienced?
eg. 01 Jul	eg. tight, stiff legs – difficult to walk	eg. I have experienced this before but not this tight/stiff

When did it start/stop?	Is the symptom constant or does it fluctuate? What makes it better or worse? (eg. heat, stress, time of day)	Score how the symptom affects you? One – not at all Five – extreme
eg. a week ago and is continuous	eg. continuous but worse in the morning	eg. two/three

About MS-UK

MS-UK is a national charity formed in 1993 supporting anyone affected by multiple sclerosis. Our hope for the future is a world where people affected by MS live healthier and happier lives.

MS-UK has always been at the forefront of promoting choice, of providing people with all the information and support they need to live life as they wish to with multiple sclerosis, whether that be through drugs, complementary therapies, lifestyle changes, a mixture of these or none at all.

We will always respect people's rights to make informed decisions for themselves.

The MS-UK Helpline

We believe that nobody should face multiple sclerosis alone and our helpline staff are here to support you every step of the way.

Our service is informed by the lived experience of real people living with MS, so we can discuss any treatments and lifestyle choices that are of benefit, whether they are clinically evidenced or not.



New Pathways

Our bi-monthly magazine, New Pathways, is full of the latest MS news regarding trials, drug development and research as well as competitions, special offers and product reviews. The magazine connects you to thousands of other people living with MS across the country.

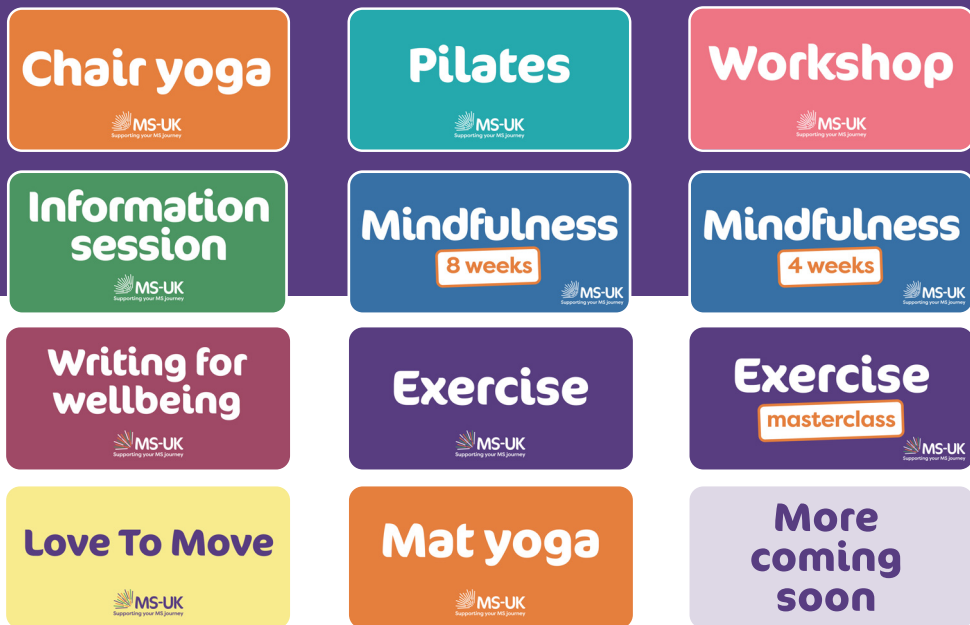
Available in print, audio version, large print and digitally.

About MS-UK

Peer support service

Our peer support service enables people to connect with others in a safe space and share experiences on topics of interest. Our Peer Pods take place regularly and are all volunteer led. Please visit the website to find out more [ms-uk.org/peer-support-service](https://www.ms-uk.org/peer-support-service) or email peersupport@ms-uk.org.





MS-UK's online activities

MS-UK offers a variety of online activities for those affected by MS to stay active, connected with others and to manage their symptoms to live happier and healthier lives. Activities include exercise sessions, mindfulness courses, chair yoga classes, information sessions and workshops. To get involved, please go to www.ms-uk.org or email register@ms-uk.org.

MS-UK eLearning

Do you work with or support someone living with MS and want to increase your understanding and knowledge of this long-term health condition? Professionals at MS-UK have created accredited Learning courses that can help you do this. Visit <https://ms-uk.org/excellence-ms/> to find out more.

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www.ms-uk.org

MS-UK Helpline

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Use me for your notes

Check out MS-UK's online activities

Live a happier and healthier life with MS



- ✓ Accessible online exercise classes
- ✓ Chair yoga classes
- ✓ Mindfulness courses
- ✓ Interactive workshops
- ✓ Information sessions
- ✓ Peer Support Service

Don't miss out – sign up for our new online activities today!

Visit www.ms-uk.org or contact us at register@ms-uk.org

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Registered charity number 1033731



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